

Attorney Docket No.: 0160106
Application Serial No.: 10/650,655

List of Claims:

Claim 1 (Currently Amended): A method of switching a first gateway from a voice mode to a facsimile mode, said method comprising:

configuring said first gateway to said voice mode for communication with a second gateway over a packet network;

receiving a plurality of UDP data packets from said second gateway over said packet network;

analyzing one or more of said plurality of UDP data packets to determine whether said one or more of said plurality of UDP data packets carry facsimile UDPTL data packets or voice RTP data packets, wherein said analyzing includes comparing an RTP type field within each UDP payload with a predetermined RTP type, and determining that said one or more of said plurality of UDP data packets do not carry facsimile UDPTL data packets if said RTP type field within each UDP payload does not match said predetermined RTP type; and

configuring said first gateway to said facsimile mode if said analyzing determines that said one or more of said plurality of UDP data packets carry facsimile UDPTL data packets;

wherein each UDP packet includes a UDP header and a UDP payload, said UDP header indicates a first length of said UDP payload, each UDPTL packet has a predetermined structure, and wherein said analyzing comprises:

calculating a second length of said UDP payload in accordance with said predetermined structure of said UDPTL packet; and

deciding said UDP payload includes said UDPTL packet if said first length is equal to said second length.

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Claims 2-4 (Cancelled)

Claim 5 (Previously Presented): The method of claim 1, wherein said calculating said second length comprises:

writing zero to said second length;
adding two to said second length for UDPTL sequence number field;
adding one to said second length for UDPTL length of primary IFP field;
reading UDPTL length of primary IFP from said UDPTL length of primary IFP field;
adding said UDPTL length of primary IFP to said second length;
adding one to said second length for UDPTL error recovery mechanism field;
adding one to said second length for UDPTL number of secondary IFP field;
reading UDPTL number of secondary IFP from UDPTL number of secondary IFP field;
and
adding, for each of said UDPTL number of secondary IFP, a length of UDPTL secondary IFP to said second length.

Claim 6 (Cancelled)

Claim 7 (Currently Amended): A first gateway in communication with a second gateway over a packet network, said first gateway comprising:
a receiver configured to receive a plurality of UDP data packets from said second gateway over said packet network;

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a voice module configured to receive said plurality of UDP data packets, if said first gateway is in a voice mode, to retrieve voice packets within said plurality of UDP data packets;

a facsimile module configured to receive said plurality of UDP data packets, if said first gateway is in a facsimile mode, to retrieve facsimile packets within said plurality of UDP data packets; and

a processor configured to analyze one or more of said plurality of UDP data packets, when said first gateway is in said voice mode, to determine whether said one or more of said plurality of UDP data packets carry facsimile UDPTL data packets or voice RTP data packets, wherein said processor analyzes said one or more of said plurality of UDP data packets by comparing an RTP type field within each UDP payload with a predetermined RTP type, and said processor determines that said one or more of said plurality of UDP data packets do not carry facsimile UDPTL data packets if said RTP type field within each UDP payload does not match said predetermined RTP type;

wherein, when said first gateway is in said voice mode, said processor configures said first gateway to said facsimile mode if said processor determines said one or more of said plurality of UDP data packets carry facsimile UDPTL data packets;

wherein each UDP packet includes a UDP header and a UDP payload, said UDP header indicates a first length of said UDP payload, each UDPTL packet has a predetermined structure, and wherein said processor determines said one or more of said plurality of UDP data packets carry facsimile UDPTL data packets by calculating a second length of said UDP payload in accordance with said predetermined structure of said UDPTL packet, and decides said UDP payload includes said UDPTL packet if said first length is equal to said second length.

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Claims 8-10 (Cancelled)

Claim 11 (Previously Presented): The first gateway of claim 7, wherein said processor calculates said second length by writing zero to said second length, adding two to said second length for UDPTL sequence number field, adding one to said second length for UDPTL length of primary IFP field, reading UDPTL length of primary IFP from said UDPTL length of primary IFP field, adding said UDPTL length of primary IFP to said second length, adding one to said second length for UDPTL error recovery mechanism field, adding one to said second length for UDPTL number of secondary IFP field, reading UDPTL number of secondary IFP from UDPTL number of secondary IFP field, and adding, for each of said UDPTL number of secondary IFP, a length of UDPTL secondary IFP to said second length.

Claim 12 (Cancelled)

Claim 13 (Currently Amended): A method for use by a communication system for switching from a voice mode to a facsimile mode, said method comprising:

configuring a first gateway to said voice mode;

configuring a second gateway to said voice mode, wherein said second gateway is in communication with said first gateway over a packet network;

receiving voice data by said first gateway;

packetizing said voice data by said first gateway, in accordance with said voice mode, to generate UDP data packets for transmission to said second gateway over said packet network;

receiving a facsimile calling tone by said first gateway from a first facsimile device;

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configuring said first gateway to said facsimile mode from said voice mode, in response to said receiving said facsimile calling tone;

receiving facsimile data by said first gateway from said first facsimile device; and

packetizing said facsimile data by said first gateway, in accordance with said facsimile mode, to generate said UDP data packets for transmission to said second gateway over said packet network;

wherein said second gateway analyzes one or more of said UDP data packets to determine whether said one or more of said UDP data packets is packetized according to said voice mode or said facsimile mode by comparing an RTP type field within each UDP payload with a predetermined RTP type, and said second gateway determines that said one or more of said plurality of UDP data packets do not carry facsimile UDPTL data packets if said RTP type field within each UDP payload does not match said predetermined RTP type, and wherein said second gateway switches from voice mode to facsimile mode if said second gateway determines that said one or more of said UDP data packets is packetized according to said facsimile mode;

wherein said UDP data packets packetized in accordance with said voice mode are RTP packets and said UDP data packets packetized in accordance with said facsimile mode are UDPTL packets, and wherein said UDP data packets encompass said RTP packets and said UDPTL packets;

wherein each UDP packet includes a UDP header and a UDP payload, said UDP header indicates a first length of said UDP payload, each UDPTL packet has a predetermined structure, and wherein said second gateway analyzes each of said one or more of said UDP data packets by calculating a second length of said UDP payload in accordance with said predetermined structure of said UDPTL packet, and determines said UDP payload includes said UDPTL packet if said

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first length is equal to said second length.

Claims 14-16 (Cancelled)

Claim 17 (Previously Presented): The method of claim 13, wherein said calculating said second length comprises:

writing zero to said second length;

adding two to said second length for UDPTL sequence number field;

adding one to said second length for UDPTL length of primary IFP field;

reading UDPTL length of primary IFP from said UDPTL length of primary IFP field;

adding said UDPTL length of primary IFP to said second length;

adding one to said second length for UDPTL error recovery mechanism field;

adding one to said second length for UDPTL number of secondary IFP field;

reading UDPTL number of secondary IFP from UDPTL number of secondary IFP field;

and

adding, for each of said UDPTL number of secondary IFP, a length of UDPTL secondary IFP to said second length.

Claim 18 (Cancelled)

Claim 19 (Currently Amended): A communication system comprising:

a first gateway having a facsimile mode and a voice mode, said first gateway including:

a receiver configured to receive voice data;

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a processor configured to packetize said voice data, in accordance with said voice mode, to generate UDP data packets for transmission to said second gateway over a packet network, wherein said processor detects a facsimile calling tone from a first facsimile device and configures said first gateway to said facsimile mode from said voice mode, in response to said facsimile calling tone, and wherein said processor packetizes said facsimile data, in accordance with said facsimile mode, to generate said UDP data packets for transmission to said second gateway over said packet network; and

a second gateway having a facsimile mode and a voice mode, said second gateway including:

a receiver configured to receive said UDP data packets from said first gateway over said packet network;

a voice module configured to receive said plurality of UDP data packets, if said first gateway is in said voice mode, to retrieve voice packets within said plurality of UDP data packets;

a facsimile module configured to receive said plurality of UDP data packets, if said first gateway is in said facsimile mode, to retrieve facsimile packets within said plurality of UDP data packets; and

a processor configured to analyze one or more of said UDP data packets to determine whether said one or more of said UDP data packets is packetized according to said voice mode or said facsimile mode, wherein said processor of said second gateway analyzes said one or more of said plurality of UDP data packets by comparing an RTP type field within each UDP payload with a predetermined RTP type, and said processor of said second gateway determines that said one or more of said plurality of UDP data packets do not carry facsimile

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UDPTL data packets if said RTP type field within each UDP payload does not match said predetermined RTP type, and wherein said processor switches said second gateway from said voice mode to said facsimile mode if said processor determines that said one or more of said UDP data packets is packetized according to said facsimile mode;

wherein said UDP data packets packetized in accordance with said voice mode are RTP packets and said UDP data packets packetized in accordance with said facsimile mode are UDPTL packets, and wherein said UDP data packets encompass said RTP packets and said UDPTL packets;

wherein each UDP packet includes a UDP header and a UDP payload, said UDP header indicates a first length of said UDP payload, each UDPTL packet has a predetermined structure, and wherein said second gateway analyzes each of said one or more of said UDP data packets by calculating a second length of said UDP payload in accordance with said predetermined structure of said UDPTL packet, and determines said UDP payload includes said UDPTL packet if said first length is equal to said second length.

Claims 20-22 (Cancelled)

Claim 23 (Previously Presented): The communication system of claim 19, wherein said processor of said second gateway calculates said second length by writing zero to said second length, adding two to said second length for UDPTL sequence number field, adding one to said second length for UDPTL length of primary IFP field, reading UDPTL length of primary IFP from said UDPTL length of primary IFP field, adding said UDPTL length of primary IFP to said second length, adding one to said second length for UDPTL error recovery mechanism field,

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adding one to said second length for UDPTL number of secondary IFP field, reading UDPTL number of secondary IFP from UDPTL number of secondary IFP field, and adding, for each of said UDPTL number of secondary IFP, a length of UDPTL secondary IFP to said second length.

Claim 24 (Cancelled)